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U.S. DEPARTMENT OF AGRICULTURE - FOREST SERVICE
CALIFORNIA FOREST AND RANGE EXPERIMENT STATION
Division of Forest Insect Research

FOREST INSECT CONDITIONS
LOST VALLEY - CLEVELAND NATIONAL FOREST
RECONNAISSANCE SURVEY
SPRING 1958

Introduction

On April 22, R.C. Hall from the California Forest and Range Experiment Station and John R. Pierce, Area Technical Advisor from the San Bernardino N.F. detected an insect outbreak in the Lost Valley area on the Palomar District, Cleveland National Forest. At that time it was thought that this was an infestation of the California flatheaded borer in Jeffrey pine. On May 6 a letter was sent from the Station to the Regional Forester, with copies to the State Division of Forestry and Division of Beaches and Parks, calling attention to the Lost Valley infestation. On May 13, F.A. Meyer, Forester for the Division of Beaches and Parks, reported in correspondence that the tree species was Coulter pine and that the infestation was probably caused by the western pine beetle.

Subsequently on June 9 a ground-check was made by a party consisting of Pierce, Clyde Strickler, Supervisor of the Anza Desert and Borrego State Parks; two local Park Rangers, R.C. McBride, J.W. Peterson; Ranger Engles of the Cleveland National Forest; and R.H. Blanford and Emmet Donahue from the State Division of Forestry. They confirmed the fact that the tree species was Coulter pine and found that the infestation was a combination of pine engravers, western pine beetle, and red turpentine beetle. On June 17 Pierce prepared a memo to the Regional Forester, with copies to the Division of Beaches and Parks and Division of Forestry reporting these findings. Later, on July 1 and 2, R.C. Hall, J.R. Pierce, R.B. Pope from the Pacific Northwest Forest and Range Experiment Station, State Park Rangers McGinnes and Junette visited the Lost Valley area primarily to ground-check aerial photos of insect-killed trees as part of a cooperative aerial photo study being conducted in this area by the California and Pacific Northwest Stations. At this time most of the timbered area in Lost Valley was observed on a reconnaissance basis. These observations form the background for this report.

The Lost Valley Area

The Lost Valley infestation covers an area of about one thousand timbered acres in portions of Sections 27,28,33 and 34, Township 9 South, Range 4 East. The timber species is Coulter pine, ranging in size from saplings to trees over 60 inches in diameter. The ownership is mixed, divided between the U.S. Forest Service, the Anza Desert and Borrego State Parks, private owners and possibly the U.S. Bureau of Indian Affairs (Los Coyotes Indian Reservation). The area is relatively inaccessible except by horse trail and rough jeep trails. In addition to the Lost Valley area proper, there are scattered insect losses

in the adjacent area to the west and south in portions of Sections 1-2, 3, 4, 5, 8, 9, 10, 11, 13, 15, 16, 17, 20, 21, 22, 23, 24, 25, 26 and 35, in Township 10 South, Range 4 East. Much of the latter area appears to be on the Los Coyotes Indian Reservation, with a change in timber type to mixed conifer on the higher ridges. The Valley floor is at an elevation of 4,700 feet ranging up to over 6,000 feet on the ridge to Hot Springs Mt. The timbered area outside the Valley totals about 3,000 acres.

The Insect Problem

The insect problem in the Lost Valley proper is the western pine beetle, Dendroctonus brevicomis Lec., the red turpentine beetle, D. valens Lec., and Ips confusus Lec. in Coulter pine. There is evidence that losses have been going on in this area for a number of years, with indications of heavier recent loss. Pierce reported groups of 10 to 15 trees killed by the overwintering brood of the western pine beetle and Ips, with many scattered smaller groups and individual insect-killed trees. Pierce also reported some very recent fades from the first summer broods for 1958. As part of the ground-check of the aerial photos, 15 sample groups of 20 trees each were checked, ranging from practically all living trees to those where practically all of the trees had been killed. The photo sample area covered only a small portion of the total area and was picked to represent maximum loss. Therefore, the photo samples cannot be considered as a valid sample of the total area; rather it would represent an area of maximum loss. It is expected however that the sample is indicative of the relative intensity of loss, comparing the current infestation with past losses.

The sample showed in the 300 trees checked that a total of 103 trees had been killed by insects. Thirty-five of these were older than 1957; 39 had been killed in 1957; and 29 killed by the first summer generation in 1958. The current stages ranged from eggs to 3/4 grown larvae.

Discussion

The current insect situation in Lost Valley poses a serious threat to the remaining green stand. Trees killed by the first summer broods of the western pine beetle in 1958 are generally grouped in numbers from several to as many as 15. The current attacks are heavy and the broods abundant and successful. Trees currently attacked are generally young and thrifty-appearing. These are all signs of an aggressive infestation, and unless something drastic happens to naturally reduce the high population potential it is expected that heavy losses will continue during the balance of 1958. The current progeny from the first summer generation should be emerging in two to three weeks, and we would expect at least one and possibly two additional generations in 1958.

We believe a formal appraisal of this infestation should be undertaken late this fall to check on the status of the overwintering generation. The appraisal should include all the timbered area adjacent to the Lost Valley unit. It could be made jointly by all the agencies involved. If the fall appraisal discloses a continuation of the present trend, the various

land-managing agencies with holdings in the area should consider the possibility of a control program next winter or early spring to check the outbreak.

Berkeley, California
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